

GEORGE W. YORK, Editor.

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No. 9.

CONVENTION PROCEEDINGS

Report of the California Bee-Keepers' Convention

BY JOHN H. MARTIN.

The ninth annual meeting of the California State Bee-Keepers' Association was held in the Chamber of Commerce, in Los Angeles, Jan. 11 and 12, 1899.

The meeting was called to order by Secretary McIntyre

at 2 p.m., Jan. 11. In the absence of Pres. Hatch, Mr. C. H. Clayton was elected President *pro tem.*

The first paper presented was by Mr. Geo. W. Brodbeck, on "The Bee-Keeper of the Future." The needs of better methods of management were pointed out, the results would be larger yields and a better quality of honey, all of which desirable results will surely come—in the future.

The Secretary read the following paper from Mr. W. A. Pryal, after which followed a lengthy discussion :

Our Gigantic Honey-Producer—The Eucalyptus.

I do not want it understood from the title of this paper that the eucalyptus, or Australian gum-tree, is a gigantic producer of honey, but I wish simply to let you know that I consider it a great, big nectar-yielding tree of incomparable value to the honey-bee and her owner.

I have not seen a larger tree in America that secretes

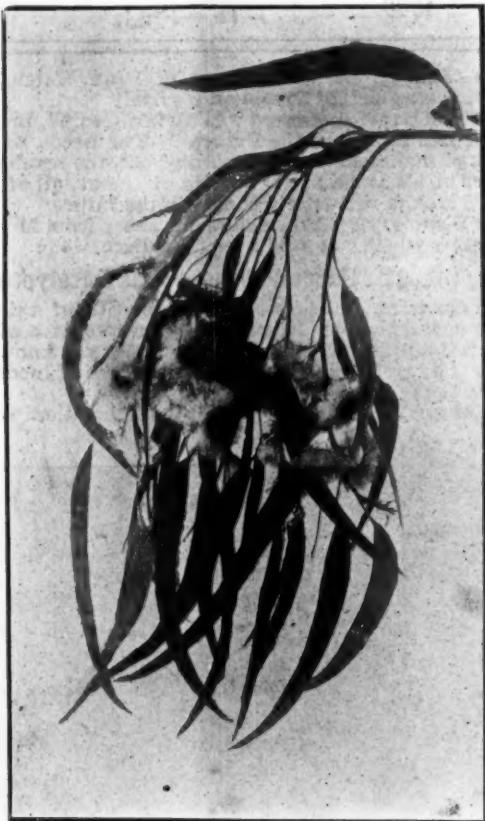


Blue-Gum on Right (in bloom)—Red-Gum on Left (the tallest of all)—California Laurel or Bay-Tree (in lefthand corner)
—Blue-Gums on the Hill at the Left.

nectar; I don't believe any one else has. Where is there a tree, often 100 feet high, in this country, that can be called a honey-tree? As far as I know, the basswood does not grow as high as our tall gum-trees, yet it secretes much more honey, at least in some years, as you know who have followed bee-keeping in the Eastern States. Possibly some day, when the gum-trees now growing in this State have obtained a good old age, they may be far superior honey-yielders than the basswood ever was.

We have bigger trees in this State than the eucalyptus, and I am proud to say that they are natives of California. Perhaps some day, when our eucalypti are old and hoary, they may be larger specimens of the vegetable kingdom than any of our sequoias of world-wide fame.

We Californians want to see everything about us spring into being with wonderful rapidity. We desire to prove to the world that we live in a fast age, and I think we do it. We have trees that in a few short years grow to prodigious size. "Jack's bean-stalk" would not be "in it" with some of these trees of ours. While I say our trees, still I would include some of foreign origin—the eucalyptus,



Blue-Gum (Eucalyptus) Flowers.

for instance. In the tree just named, bee-keepers are the most interested; it is one that overshadows everything else in their bee-garden, and as it is the one I started to discuss in this paper I must confine myself to it.

It is well that our delightful climate allows us to grow this tree, for it enhances the value of our State as a bee's paradise. With the aid of the honey from the eucalyptus an apiary that is located near a grove of these trees is able to bridge over a gap when other bee-pasturage would be an unknown quantity.

About the Bay of San Francisco, and more especially in the vicinity of Oakland and Berkeley—where my observations of the tree under consideration have been principally confined—the blue-gum blooms in winter and early spring. The flowers are numerous, and I have known individual trees to begin their period of inflorescence in December and continue to bloom continuously until May or June. The buds on the south side of the tree are brought into bloom by the warm sun of December or January, and as the days grow more balmy the flower-cups expand in increase ratio until finally the whole tree has opened its honey-chalices to

the bees. It is a delightful pleasure to a lover of Nature to sit beneath a eucalyptus tree on a balmy day in winter, and listen to the myriads of bees merrily humming their gladsome tune as they industriously gather the nectar from the thousands of flowers overhead. With what vim they work is fully attested by their joyous hum and their rapid flight to and fro between hive and tree.

It is not long after the gum-tree begins blooming that the brood-chamber that was most depleted of stores during December—which, to me, seems to be the month when the bees consume the most honey in this climate—is again well provisioned. This honey is very dark in color, thick, and of a strong, aromatic flavor; the color often resembling the iron-colored sap that sometimes exudes from a cut in the tree and forms a gum of a rusty iron nature. And, in passing, I might ask, What honey gathered during the winter months in this State is light in appearance, and of a good marketable flavor? I know of none. Do you? My observations lead me to the belief that none of our honeys from native or imported plants yield light-colored honey, except in the warmer months of the year.

It is not a light-colored honey that the apiarist cares so much for during a year of drouth—almost "any old thing" at such a time will satisfy him and his bees. Where the apiary is located near a gum forest, or in a neighborhood where gum-trees are numerous, even if they are planted as roadside trees, as we find them in nearly all portions of the State, the apiarist's bees will not starve. They will be able to fill their hives with stores obtained from the flowers of these trees.

All through the winter, when the weather is fair, my bees work on the blossoms of *eucalyptus globulus* (blue-gum), and sometimes on *eucalyptus rostrata* (red-gum). It is not always that the latter blooms during winter hereabouts—more often its season of inflorescence is in the fall. Even then it is a boon to the apiarist, for it allows the bees to lay in a store of sealed honey for winter.

We could sow the seed or set out many plants that are noted honey-yielders, but how many do so? And this mainly for the reason that we consider the ground more valuable for some other crop. Where there is an abundance of water for irrigation, alfalfa is often raised, and an excellent honey-producing plant it is, too. Would that there were more of it in this State, for it would not only be a great acquisition for the apiarist, but for the cattle and sheep raiser as well.

Right here I would like to suggest to bee-keepers who have not tried it, that they fill their pockets with alfalfa seed when about to take a walk along the bank of a creek, or along the roadside, and then scatter some of this seed at intervals during their journey. By taking these little walks in different directions they will soon have seeded quite a section about their home. Most of this seed will grow, provided it is sown just before a rain. In a few years seed from the plants thus grown will scatter and become self-sown. The area of one's bee-pasture will be greatly augmented by pursuing this plan for several years.

There are many varieties of the eucalyptus in California besides the two I have already referred to, but I consider these the best for the bee-keeper, as they are of rapid growth, bloom profusely, and make excellent fuel. *Eucalyptus globulus* is well known; it is now about one of the most common and striking trees we have in the State. *Eucalyptus rostrata* is not so common. It is not quite so rapid a grower as the blue-gum, but it is generally of a handsomer appearance, if it is possible to attribute beauty to either of these trees. Some people are of the opinion that all varieties of eucalypti are ugly; this is far from being correct, for out of the several hundred varieties of gums there are many that are ornamental.

Any bee-keeper who possesses a patch of land in the hills should by all means plant as many gum-trees as he possibly can, as I consider these trees very valuable for fuel, ornamentation (and God knows that our Southern California hills—and some of the Northern ones, too—are quite desolate in their treeless nudity), enhancing the value of the realty; and last, tho' not least, for honey.

Eucalyptus is of easy culture, and any one can raise the plants from seed. When the young plants are eight or twelve inches high, they are ready to set out in the place where they are to remain. They will require no attention after they have been in the open ground a year or two. I would recommend planting them in clumps of a dozen or so, rather than plant them at set distances through the field as one would plant an orchard. Clumps of trees at irregular intervals scattered over a field or hillside are more picturesque than when set out orchard fashion; besides, the

trees grow better; they do not have that bean-pole appearance that Rambler attributed to them once upon a time. In order to make them grow rapidly the first year or two after being planted in the open, and to prevent their being choked out by weeds, they should be cultivated.

I have been able to work my bees much closer since the advent of eucalyptus honey in my neighborhood than I was at any time previously. Before we had a flow of this honey there would be few wild flowers for the bees to work upon after the last of July. Now we have considerable honey from the red-gum during the fall. As there are five good-sized gum-tree forests in my vicinity—two being on the grounds of State institutions at Berkeley, and another of over 100 acres a few hundred yards away—perhaps I am too enthusiastic about these trees. Yet I hardly think I am, for I have given them a good deal of attention as honey-producing trees since 1877, as will appear from the old Bee-Keepers' Magazine and the Pacific Rural Press.

After March eucalyptus honey is not so dark and objectionable as that gathered during the preceding months—

from some Australian friend. He would raise a lot of plants from these, and in time they would be set out in his immediate vicinity. In and around San Rafael there are some fine specimens of eucalypti, one of which is, I believe, *eucalyptus ficifolia*, which produces a generous profusion of gorgeous scarlet flowers in trusses. It is one of the most handsome of the family; is rather tender, and on this account is cultivated more largely at the place named than any other place in this portion of California, because the climate of San Rafael is noted for its mildness. I have often seen ladies with large masses of these flowers as they wended their way from the San Rafael ferry in San Francisco. I should judge that the tree is a rich honey-producer.

At San Mateo, San Jose, and other places about the Bay, I have seen many varieties, and they all seem to be attractive to the bees. I should think there are more than two dozen varieties grown about Oakland. It was here, I believe, that the gum-tree was first planted in California; it surely seems to thrive better hereabouts than in any other place I know of. On our place we have a blue-gum



Blue-Gums in Winter—Red-Gums on the Hill at the Left.

at least that is my experience. Possibly in the southern counties of the State the honey from this source may be lighter in color, owing to the difference of climate. I am told that some of the honey gathered from these trees in Australia is very beautiful in appearance; that it is as light-colored as one could desire. Then I have been told by others that it is dark and disagreeable in flavor. I have not the least doubt that my informants are right; they came from different sections, and the climatic conditions being different, the honey was consequently affected thereby.

I have not seen any gum-tree honey that I could call light amber. Our light honey is produced after the eucalyptus has almost ceased to bloom.

I have noticed that in some portions of the State more of one variety of this tree is set out than there are of others, and that hardly any two places plant largely of a sort that predominates in another locality, excepting, I might say always, the everlasting blue-gum. What a hold this tree has on the affections of the people of this State! I suppose the reason of this uneven distribution is due largely to the nurserymen who introduced the trees in the different towns of the State. One man would get a collection of a few sorts

tree about a quarter of a century old, that is over three feet in diameter a foot from the ground, and something over 100 feet tall.

In the southern portion of the State I noticed a few varieties of eucalypti that I had not seen up here. I shouldn't wonder but they may be better honey-producers than anything we have hereabouts.

Over a score of years ago a bee-keeper in Los Angeles county asserted that the honey of a certain variety (he called it *eucalyptus ekostrata*) of gum-tree near the City of Angels yielded a nectar that poisoned all bees that sipped thereof. The Herald of that city exploited the matter. It appeared that it was slaughtering bees by the million; that it bid fair to destroy every bee near the city. My attention was called to the article by the editor of the Pacific Rural Press, and I was asked if I ever heard of eucalyptus honey killing bees. I answered that I had not, and I doubted very much if nectar from any plant was injurious to bees. After several more squibs in the local papers of Los Angeles, the matter was dropped, and I have heard nothing since about gum-tree honey being injurious to bee-life.

In closing, let me advise bee-keepers, especially those

who have plenty of unimproved land, to plant eucalyptus trees wherever and whenever they can. Those who have little room may plant out what trees their land will accommodate. Raise more plants than you require for your own use, and give the surplus ones to your neighbor to plant. He may be glad to get them, for he may have been wishing to establish a windbreak behind his barn, or, perhaps, he had been thinking that he should set out a lot of trees that would give all the fuel and fence-posts he and his children would require in the future. Just cast your bread upon the waters and it will return a hundred fold.

W. A. PRYAL

Mr. Brodbeck practices migratory bee-keeping, moves his bees from the sage-fields in the mountains to the suburbs of the city where the bees have access to a large acreage of the eucalyptus trees; the bees get enough honey to keep them through the winter, and sometimes they store a surplus.

Mr. Steele recommended eucalyptus robusta as a good honey-producing tree. It required great care to start the growth of the tree from the seed. The seed should be sown in fine soil in trays, and covered lightly with fine soil, and exposed to warmth and moisture. The young tree, when first planted, requires some nursing with water for a few years, but when it becomes fully rooted it will take a very severe drouth to kill it.

METHODS OF FEEDING BEES.

Methods of feeding were discussed by M. H. Mendleson and others. Mr. Mendleson crowds the bees upon a few combs, compelling them to crowd the queen into small space; by so doing the queen is prevented from enlarging the brood-nest and rearing a large number of bees to consume the temporary stores given them. He used for a feeder a half of a five-gallon can in which a float is placed.

Mr. McIntyre used a six-pound feeder on the rear of his hives, the bees having access to it through an auger-hole. The feeder has a cover to it, and there is no chance for robbers to molest the colony—they would make no attempts to gain an entrance in front of the hive.

Mr. Aldrich feeds at every tenth hive; to this colony he gives all of the feed and distributes combs as fast as they are filled to the colonies that most need the food.

Mr. Wilkin found that bees could be fed nicely at night, by tilting up the front of the hive and turning the feed in at the entrance, the bees taking it up from the bottom-board.

The session of the Association on the morning of the 12th showed some signs of dwindling. Altho the attendance was not so numerous, the discussion of foul brood laws and foul brood was quite animated, and consumed a good portion of the forenoon.

The question was asked if the bee-keepers would make an exhibit at the Paris Exhibition. As no concerted action was taken it will probably remain an open question, and made, if at all, upon individual contributions. California has never made a creditable exhibition of honey as representing the whole State, and probably never will until the advent of that "sweet bye-and-bye" referred to in the opening paper by Mr. Brodbeck.

MARKETING HONEY AND CO-OPERATION.

Mr. McNay, of Wisconsin, was present, and gave an interesting talk on marketing honey. He stated that nearly all of the Eastern honey is put in up barrels and kegs, and dealers prefer Eastern honey in that style of package. He advised bee-keepers not to ship honey to commission-men unless they got a good advance upon their honey. Honey that is sent on without exacting an advance, is usually put in the back portion of the warehouse, and is the last to be sold; that is the reason why bee-keepers sometimes have to wait so long for their returns. He found that where extracted honey was put upon the market, and where people could have confidence that it was the pure article, it would sell better than comb honey, and the sales could be increased. As there is a difference in tastes, and as some people like a strong-flavored honey, he could sell buckwheat at the same price as the light-colored and milder-flavored.

Mr. R. Wilkin, our well-known veteran bee-keeper, gave an interesting address upon "Co-operation." He had noted a great improvement in honey-production since 1861. Since that period more conventions were held, and journals published, and they all had an influence to elevate the business of bee-culture. The person who did not read the bee-papers, or did not attend the meetings of an association, obtained a second-hand knowledge of the business. Bee-keepers are

proverbial for their generosity in imparting their knowledge. His idea was that we should come together often, and trust each other more, and the result would be in a better class of bee-keepers. He indorsest the labors of the United States Bee-Keepers' Association, and hoped all would join the organization.

Mr. Wilkin was elected President for the coming year, J. F. McIntyre re-elected Secretary, and the present Treasurer continued.

A short honey season is not conducive to a large attendance at a bee-convention in California. Fully 50 percent of the bees have died, and the rains have not been sufficient encouragement to ensure a honey crop.

Los Angeles Co., Jan. 21.



Winter Flights for Bees—Constipation.

BY C. P. DADANT.

WE are having a good winter for the bees, tho it is a poor season here for the wheat-grower. There has been but little snow, but the alternatives of cold and warmth have given our bees repeated chances for winter flights thus far. It would now be very strange if the bees did not winter well. The early and rigorous cold weather of November and December threatened us with a long winter, but January proved to be mild, and the severe but short cold spell of February has not done them much harm.

Bees are a warm-blooded insect, and as long as a colony keeps in health the temperature of the cluster is about the same as the normal temperature of the blood of a human being. So the bees go safely through some of the most extreme cold-spells, even with a great deal more ventilation than one would think was good for them.

We had a neighbor bee-keeper, years ago, who kept bees in the old-fashioned way, and allowed them to go through the winter without a bottom-board, the hives being raised from the ground on stakes, and his winter losses were not much greater than the average. He held that they wintered better in that way, as they never lackt ventilation and pure air, which was true, but it always seemed to me that it was like sleeping with a window open. I know of people who never sleep without an open current of cold air. I never could become quite convinced that this was the proper way to avoid colds and catarrh, altho I will acknowledge that a change of air is necessary, or rather, indispensable, but I want mine warmed up before it reaches me, during zero weather at least. Tho our bees are in no fear of catarrh and cold, the protracted cold and extremes of temperature compel them to consume an unusual quantity of stores, and their abdomens become distended with fecal matter which they must discharge occasionally, if they are expected to keep healthy and winter well.

So an occasional warm day, allowing them to take wing and cleanse themselves, is always beneficial, and it may be safely asserted that with a warm day once every three weeks, ordinary colonies will live through the most frigid weather that is known in our latitude. When the cold weather is of long duration they are not only in danger of being compelled to discharge their bowels in the hive, but are also running the risk of constipation. And, by the way, this constipation which, in some years, seems to take the shape of a contagious disease, is but little seen outside of long confinement. I have often thought that the disease generally called "the nameless bee-disease," might be but a contagious form of constipation.

Cheshire, who has made an anatomical examination of this disease, gives it the scientific name of "bacillus gaytoni," after Miss Gayton, who, it seems, called his attention to it. In constipation, as in the "nameless," the bee is apparently crippled by the distended condition of her abdomen; when the contents of the bowels are examined, they are found loaded with offensive matter as foul as that discharged by healthy bees that have been confined a long time in the hive. The disease seems to be most prevalent among the oldest bees, for in most cases the sick ones are

those which are deprived of hair by long toil, and are "slick and shiny."

It has been suggested that the slick and shiny appearance was caused by the disease itself and only a result, but I have often seen young bees, with all other appearances of health and a full coat of hair, suffering from this same malady. When constipation has been prevalent in a colony, it seems to retain its hold among the bees, and to continue slowly and contagiously, and I have often known even the queens to die of the same cause. Occasionally the "nameless disease" has run with more or less force in a hive for an entire season, tho not with sufficient virulence to endanger the strength of the colony, but I am of the opinion that it may usually be traced back to the long winter confinement of the bees on perhaps inferior honey.

Plenty of good, well-diluted, warm feed in the spring, is the best thing that can be recommended to do away with this disease, but it is certainly advisable to procure our bees as many chances of flight as possible during the cold weather.

We have just had a pleasant day (Feb. 15), and the bees have again had a good cleansing flight. Every colony is alive in the home-apriary to-day. Surely the loss cannot be great.

Hancock Co., Ill.



No. 1.—Doolittle's Talk on Bees at a Farmer's Institute in New York State.

BY REPORTER.

JANUARY 18 and 19 there was a Farmer's Institute held at South Onondaga, N. Y., about 10 miles out from Syracuse. Among the other speakers announced on the program was Gilbert M. Doolittle, who was to be the last speaker for the afternoon of the first day. Besides the address of welcome in the morning, there were to be two speakers in the forenoon, and in the afternoon ex-Gov. Hoard, of Wisconsin, was to address the institute preceding Mr. Doolittle.

But the meeting opened late, and for this reason the first speaker of the forenoon took up all the time before dinner, thus crowding three speakers into the afternoon session. The first took an hour and a quarter of time, and the Governor an hour, so that it was nearly four o'clock when Mr. D. took the platform and lookt over the tired audience which had been assembled for about two hours and a half.

Mr. Doolittle's face showed that he was in a "brown study" for a moment, as if he feared he could not "catch and hold" his hearers with the subject, "Bees and Honey," which had been assigned him, when in their tired condition, for quite a few had been going out before the Governor closed his address. But presently a light came over his face, and he began something like this:

A little boy was sent to a neighbor's by his mother, one dark night, on an errand, and this little boy was always afraid in the dark. When he returned, his mother said to him, "You were not afraid much, were you, my son?"

The boy replied, "Oh, mamma, if you had only felt the streaks of scaredness run up and down my legs as I did, you would know I was scart."

"And now to follow two such eloquent speakers as have preceded me this afternoon, and especially a Governor of a great State like Wisconsin, makes the 'streaks of scaredness' run up and down my legs, just as they did on the legs of that little boy."

Here Mr. Doolittle gave a great shudder, which caused a smile to come over nearly every face, and from that time on Mr. D. had perfect power over those before him, so that no one left the room till he had finisht speaking.

He went on to tell how he was raised in "old, cold Spafford" (as the town of Spafford in which Mr. D. lives has the highest elevation in the county of Onondaga), where it was so cold they could eat "jack-wax" off snow-banks on the Fourth of July, and raise flax to perfection. How his parents moved to that town from the State of Connecticut, and being poorly supplied with this world's goods, kept him at work on the farm, so he had only a limited district school education. How one day, when the school commissioner came to examine the school, his teacher had pointed him out as "the biggest ignoramus in the school," and, said Mr. Doolittle, "he might have added his name is Doo-little."

This caused a ripple of mirth to pass over the audience, when he continued:

"But I am not here to tell you of my scaredness, of my

home surroundings, or anything of the kind, but to speak to you as best I can, in my homely, ungrammatical way, about bees and honey."

He then went on to tell how each good colony of bees in early spring contained a queen, and from five to ten thousand workers. The worker-bees are the ones which do the stinging, gather the nectar from the fields, nurse and feed the larvae, build the comb, etc.; while the queen is simply the "mother-bee," her only business being that of laying eggs. When she first commenced to lay in the early spring she only laid about ten eggs a day, but as the weather grew warmer she made an increase, until, when doing her best, she would lay from two to three thousand every day during the forepart of June. These eggs were in that form for three days, when they hatcht into little worms or larvae, so small as hardly to be seen with the naked eye, but, under the stimulus of the chyle fed to them, grew till they nearly or quite filled the cell six days after hatching, when the cell was sealed over, and they remained in the pupa form, or hid from view, for 12 days more, when they emerged a perfect bee.

He told how the young bees did little more than eat and straighten out for the next day or two, when they went to feeding the larvae, building comb if needed, and doing general "housework," till they were 16 days old, when they went out as field-workers, gathering honey, water, pollen and propolis, till 45 days from the time of emerging from the cell, when, as a rule, during the working season, they died of old age, and another generation took their place. Thus the workers lived 45 days only in the summer-time, but in the winter, when they were comparatively inactive, their vitality was not worn out so soon, hence the bee that emerged from its cell in September lived over till the next May or June.

As the bee was 3 days in the egg form, 6 days in the larval form, and 12 days in the pupa form, making 21 days from the egg to the perfect bee, the queen could place on the stage of action two and one-seventh generations to where one died off, thus bringing about swarming through her more prolific egg-laying during May and June.

He next told how by reversing and spreading the brood the queen could be coaxt to lay a greater number of eggs than she otherwise would, and if planned rightly, so that the greatest number of workers were on the stage of action at the same time when the honey harvest was at its best, the best results could be secured in honey.

He explained how to know when the honey-producing flowers would bloom, and how to rear the bees so as to meet this bloom; but to go into all of the minutia of what he said would take too long to be interesting to the reader. He reminded the audience that few bee-keepers paid much attention to this, which was the most essential point to be lookt after in producing honey. In fact, he made it very plain that the person who did not look after this part of the business could not possibly secure the best results in apiculture.

At this point he took the audience by surprise with a story something like this:

There was a certain darkey in the South who went almost daily to his nearest city to vend the proceeds from his truck-garden. But one morning something unusual happened, which was that his wife went with him, for the first time. As he reacht the suburbs of the city he called out in his usual way, "TATOES! TATOES!" Mr. D. here put such power in his voice that quite a number jump in their seats, and one girl gave a little shriek, which only added to the merriment.

Immediately the darkey felt something pulling on his coat-skirt, and his wife said in a hoarse whisper, "Hush, hush, honey; you'll waken everybody in town." To which the darkey answered, "Do you suppose any one will hear me when I say TATOES!"

"Hear you, hear you, yes! they'll hear you all the way for five miles around!"

"Well, that's what I'm shouting for. TATOES! TATOES!"

This story brought a general applause, and as soon as it had subsided Mr. D. imprest upon his audience that such shouting, about bringing the bees and honey harvest together, always brought success to the one practicing it.

He told them how he might talk to them about swarming and non-swarming, queen-rearing, crating and marketing honey, preparing for winter, etc., but if they would take home with them one thought of securing the bees in time for the honey harvest, both he and they would be well paid for the time spent in coming to the institute.

[Continued next week.]

Italian Honey vs. That Stored by Blacks.

BY EDWIN BEVINS.

WHEN I first read the article by Mr. Bates on page 19 I said to myself, "The committee appointed to investigate and report on the causes for the superior quality of Italian honey is making progress." Then I "read over again that perplexing epistle," and concluded that not much progress had been made, after all.

It may seem ungracious in me to maintain so persistently the character of a Doubting Thomas, but as long as I am a skeptic I will not try to appear to be something else. When the evidence is such as to produce conviction I will own up as freely as Thomas did.

And now let us analyze the evidence adduced by Mr. Bates.

He says, "The taste of the pudding is the proof," leaving us the inference that he has tasted the two puddings made by the two different cooks, and that the pudding made by the Italian cooks had an appreciably better taste than the one made by the black ones. Now, I am not going to contend that one pudding did not taste better than the other. It is not the fact that one tasted better than the other, but the reasons for this better taste that we are in search of.

In his third paragraph, Mr. Bates relates the circumstances that a few years ago he had two colonies of blacks located side by side and apparently equal in all respects. One colony stored surplus, the other consumed the honey it had. His conclusion is that the difference in the "reach" of the bees of two colonies made the difference in results. It is then a fair conclusion that some colonies of blacks have longer tongues than do other colonies of blacks. If this be so, may it not well be that some colonies of blacks have tongues as long as some colonies of Italians? That the average length of the tongues of Italians may be greater than that of the blacks may be a proven fact, but I confess that I am not familiar with the proof.

In his seventh paragraph, Mr. Bates tells us that one season he had a 3-frame nucleus of Italians which beat an 8-frame colony of blacks. He attributes the difference in production to the difference in the reaches of the two strains, and also the difference in the quality of the honey. With what did he compare the Italian product? He says that he got not a pound of surplus from the blacks. But then he might have had other colonies of blacks that stored surplus.

I think that if Mr. Bates kept none but Italian bees he would some seasons observe similar differences in production between different colonies; and similarly if he kept none but blacks. So many factors contribute to produce differences in both production and quality that it will not do to attach much importance to any one of them.

There is some plausibility in the theory of Mr. Bates, that the better portions of the flower-secretions go to the bottoms of the flower-cups, and this would make me wish that these better portions would rise like cream instead of settling like a sediment, if it were not for the fact that the flower-cups of many flowers are bottom side up.

The facts recited by Mr. Bates in his third paragraph seem to be fatal to many of the claims and contributions embodied in his article.

Like the member of a certain fraternity (which shall be nameless), I am hungering and thirsting for "more light."

I do not now question the fact of the better taste of the product of Italian bees—this fact is attested by so many credible witnesses that I am constrained to yield it my belief. But that this superiority is present at all times and under all circumstances may well be questioned. I would be understood as not being satisfied with the reasons thus far given for the existence of this better taste when present.

It is my impression, however, that when this discussion is over, it will generally be agreed that the reasons presented by C. P. Dadant are the reasons which come nearest affording a solution of the problem.

Decatur Co., Iowa.



Langstroth on the Honey-Bee, revised by the Dadants, is a standard, reliable and thoroughly complete work on bee-culture. It contains 520 pages, and is bound elegantly. Every reader of the American Bee Journal should have a copy of this book, as it answers hundreds of questions that arise about bees. We mail it for \$1.25, or club it with the Bee Journal for a year—both for only \$2.00.

QUESTIONS AND ANSWERS

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[Questions may be mailed to the Bee Journal, or to Dr. Miller direct.]

Number of Bees in a Pint.

How many bees are there in a pint? As many claim that 40,000 bees make a good colony, I would like to know on what plan to estimate, so that I can tell when I have from 20,000 to 40,000. If I know how many there are in a pint I can estimate a colony.

PENNSYLVANIA.

ANSWER.—According to Root's "A B C of Bee-Culture" there are about 1,600 bees in a pint.

Number of Colonies in One Apiary—Two Queens in One Hive—Storing Syrup.

1. How many colonies will do profitably in one apiary?
2. Can there be two queens kept in one colony by having a queen-excluder between, with one entrance?
3. If syrup is fed to bees and they store it in the cells will it be honey or syrup?

OREGON.

ANSWERS.—1. That depends on the amount of pasture. J. F. McIntyre, in California, had 600 colonies in one apiary. It is quite possible that a less number might give more surplus, and it is entirely certain that in the large majority of locations 600 colonies would not only yield no surplus but would starve for want of food. It is estimated that a colony consumes about 60 pounds of honey in a year, and that 60 pounds must be taken from all that is gathered before any surplus is left for you. There is no way to determine positively how much nectar is in a certain territory, but suppose 6,000 pounds of honey is the entire amount that can be gathered by the bees in a given apiary. If there are 100 colonies, they will need for their own use the whole of the 6,000 pounds, and you will have no surplus. If there are more than 100 colonies, they will starve unless they are fed. If there are 50 colonies, they will need for their own use 3,000 pounds, and the remaining 3,000 you would have in surplus. If you have a fair amount of white clover or linden, with fruit-bloom and some fall flowers, it is probable that 100 colonies would do well, but it must be remembered that no two years are exactly alike.

2. You can have two queens in a hive by having a thin board partition between the two, and the two queens will sometimes, perhaps generally, be allowed if an excluder is between.

3. If bees are fed syrup in the ordinary way, whatever they store will still be syrup.

Transferring—Preventing After-Swarms—Fence and Plain Sections.

1. In transferring, would you advise the Heddon plan as described in "A B C of Bee-Culture?" If so, how should the second "drive" be united with the first at the end of 21 days, as I presume they will have reared a queen of their own in the meantime?

2. To prevent after-swarming, I see you advise setting the swarm on the old stand, leaving the parent colony close to it for a week. The "A B C of Bee-Culture" recommends placing the old colony at the other side of the yard at once. What are the reasons for the different plans, and why will either plan stop it?

3. I am thinking of adopting fence and plain sections this year. Would you advise doing so, or sticking to the old style? Which of the plain sections would be better—the square or the tall?

WOODLAWN.

ANSWERS.—1. Yes, the best way is to use the principle of the Heddon plan, which is to get all the worker-brood hatched out before cutting out any combs. Very likely, however, you will be better suited if, instead of driving, you wait till the bees come out of their own accord by way of swarming. For one thing, it's less trouble to hive a swarm than to drive them. Another thing is that the bees know

when is the right time when all things are ready for swarming, and you may make a mistake about the best time for driving. If the bees do not swarm by the time most colonies have swarmed, you still have the chance to drive them. At the end of 21 days you can drive out all bees and unite without paying any attention to queens—the bees will settle that matter for themselves.

2. When a prime swarm issues there is a big lot of sealed brood present, and young bees are emerging by the thousand every day, so that when the first young queen is ready to fly there is a strong force of bees ready to go with her. If you can manage to have the larger part of those young bees unite with the swarm, you increase its ability for gathering surplus, and you at the same time lessen the desire for a second swarm. If you put the swarm on the old stand and at once put the old hive in a new place at some distance, all the bees that were out in the field will go back to the old stand, and all the old bees that leave the old hive the next day or so will return to the old stand. This will strengthen the swarm, and at the same time will weaken the old colony so much that it will generally prevent any second swarm. Not in all cases, however, and if we can do anything to throw a still larger number of bees from the old hive into the new, it will be an advantage to do so.

Now, suppose that instead of putting the old hive in a new place at once we set it close beside the swarm. Then two days later we move the old hive to a new place. All the bees will join the swarm that would have done so had we moved the hive on the day of swarming, and in addition to that there will be all the bees that have turned into field-bees in the two days. If we wait until three days after swarming, the number of field-bees will be still larger, and so the number will increase daily for some time. But we must be sure to move the hive before a second swarm issues. Under ordinary circumstances, we are safe to move it a week after the day of swarming. On that day set it in a new place, and all the field-bees will desert it and join the swarm. You can make the matter still more emphatic if you move the hive at a time of day when the young bees are taking a flight, for all of them that are out when the move is made will also join the swarm. For a day or two no nectar will be brought into the removed old hive, and this, together with the depletion in numbers, will so discourage the bees that they will give up all notion of swarming.

It sometimes happens that at the time when a first swarm is ready to issue the weather is so bad that swarming is delayed for two or three days. In that case the second swarm would issue in less time than usual after the first, making it happen that if we wait a week before moving the hive to a new place, there would be a second swarm before that time. So if there has been bad weather just before the time of the prime swarm issuing, it may be well to move the old hive to a new place in six days or even less time after the day of swarming.

3. I don't know enough about them to answer. I had them on trial last year, but the failure of the honey crop left me no wiser than a year before. It will be wise for you to try the two kinds side by side and decide accordingly.

Keeping Bees on Shares.

As there is but very little said in the text-books in regard to leasing or renting bees, I have concluded to ask a question on that subject, not only for my own benefit, but for the benefit of others that may be interested in bees on shares.

Suppose A should lease to B any number of colonies, from 2 to 50, for a term of five years, B to furnish everything—hives, sections, foundation, etc., and do all the work, rear and furnish queens to keep all colonies up to the standard. What rate of interest should A receive annually? And what would be the value of said bees per colony, if Italians in modern hives? Also the value of common bees in common hives? How many colonies of bees should A receive over and above the number least (if any) at the end of five years?

In answering this question the winter losses and taxes along with increase should be taken into consideration. But we will suppose that B works the bees for comb honey and does not care for increase.

INDIANA.

ANSWER.—Very little is said in the bee-books as to bees on shares, for the very good reason that very little can be said that will be of general interest. The one thing that can be said to apply to all cases is that unless everything to

the smallest particular is put down in black and white there will almost certainly be misunderstandings. If the bee-books were to give instruction that would cover all cases, it would make a book of itself. Each case is different from all others, and it is not very likely that a full answer to the present question will be of any use to any other reader, as may be seen to some extent by looking up what is said in the last volume of this Journal as to bee-keeping on shares. See pages 11, 26, 122, 598, 662 and 807. On those pages you will perhaps find more on the subject than is to be found in any of the bee-books, and yet from the nature of the case nothing there said is likely to be of much use to the very next one who desires information on the subject. I regret that I cannot give an explicit answer to every question of the kind, but I think you will see it is impossible.

In the present case the question is less involved than in some others. A has a certain number of colonies from which he wants an annual interest. Plainly, he should have the same interest he would get on the amount of money the bees would sell for, with the bees as the only security for getting back his principal at the end of five years. But that leaves the question still open, for the risk depends much on the locality and the kind of a man B is. The rate of interest is always higher where the security is poor. If the locality is one where it is hard to winter bees in safety, where the majority run out of bees entirely in five years or less, and if B is so little skilled that he doesn't know how to succeed in wintering, there should be a good deal more than the legal rate of interest.

At the end of five years, if A has had his interest annually, he should expect nothing more than his regular interest for that year and his principal back.

The value of bees varies with time and place. It may be three times as much in one place as another. I have no means of knowing what they are worth where A and B live. Turning to page 560 of last year's volume, you will see definite prices given by a man with his mouth full of sobs and his voice full of tears. But those prices may be very different from any A can realize. You can know something definite as to the price of bees of those who advertise them for sale, but that doesn't tell what they are in other places.

Questions on Transferring.

1. I have one colony which is hived in a home-made box, nailed up at both ends. There are two sticks inside crossing each other, and the bees have built the combs every way. I bored some holes in on top and put on a super, but they didn't do anything above. How can I transfer them into another hive? and what can I do with the comb in the old box?

2. How can I clean the dead bees from the bottom, when bottom is nailed? My idea is to take out some frames, scrape an empty space, and brush over the balance of frames towards the clean space. After I get the bottom cleaned I push the frames back in place and put in the ones taken out where they were.

I ought to have a good bee-book so I could learn about bee-keeping.

ANSWERS.—1. If you had put in the super a bait, perhaps the bees would have stored in it. As a bait you can put in a piece of comb. Perhaps you will do as well to leave the hive undisturbed till after the bees swarm, then 21 days later there will be no worker-brood present, and you can transfer according to the directions given in the bee-books. By all means you ought to have a text-book for it will hardly do to take up room here repeating all that you will find in the book. If there are nice, straight combs in the old hive, you can transfer them into the new, and the rest can be melted up.

2. Your way will do, but it is rather slow and troublesome. Take the hive off its stand and set in its place a clean empty hive. Lift the frames out of the old hive and put them in the clean one. Now clean out the old hive and it is ready to replace the next one to be cleaned. If your hives are very heavy and you are not very strong, instead of first setting the clean hive on the old stand, go at it in this way: Set the clean hive near by and lift into it half the frames. Then take the old hive off the stand and put the other in its place, when you can move the rest of the combs. If you try it you will probably like your hives better with the bottoms loose.

The Premiums offered on page 62 are well worth working for. Look at them.

GEORGE W. YORK, Editor.



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Organized to advance the pursuit of Apiculture; to promote the interests of bee-keepers; to protect its members; to prevent the adulteration of honey; and to prosecute the dishonest honey-commission men.

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GEN'L MANAGER AND TREASURER—Eugene Secor, Forest City, Iowa.

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NOTE—The American Bee Journal adopts the Orthography of the following Rule, recommended by the joint action of the American Philological Association and the Philological Society of England:—Change “d” or “ed” final to “t” when so pronounced, except when the “e” affects a preceding sound.

Bees and Honey in Illinois.—In the statistical report of the Illinois State Board of Agriculture for Dec. 1, 1898, which is just received, we note the following:

With the exception of 1891, more honey was produced in 1898 than any previous year. By far the greater part of this was produced in northern Illinois, 423,166 pounds, central Illinois reporting but 128,472 pounds, and southern Illinois, 137,802 pounds.

The Dec. 1 price of honey, 12 cents per pound, is the same as in 1897.

The value of this by-product of the farm in the northern division of the State is \$50,039; in the central division, \$16,837, and in the southern division, \$16,604, giving a total valuation of \$82,480.

There were 62,054 colonies of bees reported to assessors in 1898.

In view of the almost total failure of a surplus honey crop in Illinois last year, the statement made in the first sentence above is amusing, to say the least. The year 1897 was a phenomenal honey-year—honey almost everywhere.

We often wonder who is responsible for the bee and honey statistics that we see made public from time to time. From their apparent unreliability we fear they are “made up” in some machine shop.

Somnambulist and Fire-Water.—Somnambulist, the delightful dreamer down in the Progressive Bee-Keepers’ locality, while gently touching up the editor of this journal for mentioning such an out-of-date remedy as whisky for bee-stings, takes the opportunity of saying that he (Somnambulist) is not a temperance fanatic, being a sort of “middle of the road” man, but doesn’t want to encourage

in the slightest degree the drinking of fire-water. Which raises some painful questions. Is it possible that the good-hearted Sommy sees so clearly the evils of fire-water that he doesn’t want others under its influence, while he is so far under said influence himself that his devious course requires him to get clear out into the middle of the road? Stop it, Sommy. You run risks enough walking in your sleep without the other thing.

Advice to Starters of New Bee-Papers.—Editor Hutchinson, in his February Bee-Keepers’ Review, when speaking of the recent improved appearance of some of the bee-papers (notably the American Bee Journal), gives this wholesome advice:

“Let no man start a new bee-journal with any hope of success unless he can make it as neat, at least, as the ones that are now being published. Yes, he must go even further, as the friendship between an old established journal and its readers is very strong, and, to win them away, something considerably better must be offered them.”

Actually, some of the new bee-papers that have come to our desk during the past seven years have been simply a disgrace to the printer’s art, and quite unworthy of any notice whatever.

But, surely, Mr. Hutchinson would not suggest that a new paper, or any paper, should try to *win away* the subscribers of another or established paper! We have never tried to do that. We would not strive to lessen the number of subscribers of another bee-paper by winning them away, but would simply have them take the American Bee Journal *in addition* to the other paper. We wouldn’t advise any bee-keeper to drop the Review for the American Bee Journal, but we would always urge the Review subscribers to read our paper also. For after a year’s trial, we are certain he would have the American Bee Journal regularly along with the Review, that is, if he were really interested in bee-keeping.

The Door Open for the Union.—In a letter received from Mr. Newman recently, as well as in his report published on page 120, he says that he cannot longer than the present year act as General Manager of the National Bee-Keepers’ Union. In the letter referred to, Mr. Newman says:

“I am working harder and harder and spending more strength and vitality every day than accrue in the short period for rest, and therefore I have concluded to curtail some of my labors outside. I am refusing all calls for lecturing, and shall not undertake to manage the affairs of the Bee-Keepers’ Union after this year. Fifteen years of my life are all that I can spare in that direction. The almost unanimous vote for me has been *the only tie* that bound me to the work. I did not feel like refusing my many friends to serve them, but now the ‘physical’ demands it, and as I am now close on to 70, I must consider myself a little, and refuse to sacrifice health and strength to labors that can be as well performed by others.”

All know that Mr. Newman has done a grand work in the Union during his many years of faithful service, and for the excellent reasons he mentions, he should not be required to wear himself out further in the interest of bee-keepers.

It has been suggested to us (not by Mr. Newman, however), that the members of the Union might now look with favor upon joining its fortunes with the United States Bee-Keepers’ Association. It would seem so to us, and if such is their wish, they will find that the door was left wide open for such uniting of forces, should the time come when the Union felt so inclined. The following paragraph, taken from the report of the Buffalo convention in 1897, will further explain about that “open door”:

“A Member—Mr. President, as there may sooner or later be an inclination on the part of the members of the

National Bee-Keepers' Union to help put the United States Bee-Keepers' Union [now Association—ED.] on a more substantial basis, both by their influence and their money, I move that a committee be appointed by the President to devise some plan by which so desirable an object may be accomplished whenever the Advisory Board of the National Bee-Keepers' Union may signify a wish so to do. [Motion adopted, and the Board of Directors appointed as such committee.]

We republish the foregoing paragraph for the purpose of reminding the Union how nicely the way was left open for them to come into the United States Association, whenever they should so desire. All that is necessary is for the Advisory Board of the Union to express their wish to the Board of Directors of the Association. Mr. G. M. Doolittle is now President of the Union (and we presume chairman of the Advisory Board), and Mr. E. R. Root is chairman of the Board of Directors of the Association.

Now, if the members of the Union's Advisory Board feel that a "wedding" should take place, they could so inform Pres. Doolittle, who would communicate such "wish" to Chairman Root, and likely the contracting parties could be ready to begin "housekeeping" Jan. 1, 1900—the time when Mr. Newman says he must terminate his work as General Manager.

Personally, we had once decided not to speak again of uniting the two organizations in question, but perhaps the time is now at hand when it will be wise to take up the matter and unite under one banner the bee-keepers of this country. We are willing to do what we can to make everybody happy, and if the Board of Directors of the Association shall report, at the next annual meeting, that they had arranged with the Union's Advisory Board to unite the two organizations Jan. 1, 1900, we shall be glad to join in a hearty welcome to the Union's membership, and extend congratulations all around.

Michigan Foul Brood Law.—We understand that a Foul Brood Bill is now before the Michigan legislature, and Editor Hutchinson, of the Bee-Keepers' Review, speaks of it as follows:

"If the legislature thoroughly understands the matter, knows how badly the law is needed, and why it is needed, there is no doubt of its passage. It is the business of the bee-keepers of the State to inform the legislature in regard to the matter.

"If each bee-keeper who reads this will write to his member in the legislature, and fully set forth the reasons why the law ought to be past, it will be past. Don't think that because there is no foul brood in your apiary, nor near you, that there never will be; and the sooner we have this law, and an inspector to look after the matter the better, the less likely is it that it will appear in your yard. Simply write to your member and explain to him the contagious, infectious character of the disease. How it finally destroys an apiary; but that is not the worst of it; bees from other apiaries rob out the depopulated hives, and thus carry home the seeds of the disease to destroy another apiary, and thus it continues to spread from apiary to apiary, unless it is checked. Call his attention to the fact that it is not the bee-keeper alone that suffers but that the fruit-grower and the horticulturist need the bees to fertilize the blossoms, and thus cause them to bring forth fruits in abundance. Don't get up any petitions. Simply write a personal letter to your member, and it will be read and considered, while a petition will simply be tucked away in a pigeon-hole."

"Friends, I beg of you, do not neglect this matter. It is important."

We also would have all of our Michigan subscribers at once write their representatives at Lansing, urging the importance of the foul brood law.

To Get Rid of Laying Workers. Mr. Wilson puts over the colony a queen and some frames of bees and brood, doing this toward evening, and has succeeded in each of the half-dozen cases he tried.—*Progressive Bee-Keeper.*



MR. N. E. FRANCE, Wisconsin's State inspector of apries, is speaking daily upon bee-culture at the farmers' institutes. He expects to be through by March 17. As that is "St. Patrick's Day," we presume he will celebrate then!

* * * *

MR. WM. STOLLEY, of Hall Co., Nebr., writing us Feb. 17, said:

"After a confinement of 22 days, and part of the time 30 degrees below zero, my bees have had three days sporting in the warm sunshine, and they are now in good trim to stand another severe spell of cold weather."

* * * *

J. J. G., 1800 Prairie Ave., Chicago, Ill., wants a good, trustworthy man who understands bees thoroughly, and who will be an assistant gardener. The position would be in the White Mountains in New Hampshire, town of Littleton, on an estate of about a thousand acres. The situation is a good one, and a permanent one to the right man. Address as above if you think you can "fill the bill," and want the place.

* * * *

"PICKINGS FROM OUR NEIGHBORS' FIELDS" is the title of a new department in Gleanings which gives in condensed form items of interest gathered from other bee-periodicals. It is conducted by "Stenog," which is short for W. P. Root, a man not related by blood to the Roots of Gleanings, but one who has had much to do for many years with the fact that Gleanings is typographically so near perfection. He is stenographer and proof-reader, and what he doesn't know about the ins and outs of punctuation and the fine shades of meanings of words is hardly worth knowing. Withal he has a good stock of the sort of humor of which one never tires. He seems to find pretty good "picking" in the American Bee Journal.

* * * *

MR. THOMAS G. NEWMAN, of San Francisco, Calif., General Manager of the National Bee-Keepers' Union, writing us Feb. 18, said:

"I have seen in the daily papers of the extreme cold and of the storms and blizzards you have been having in the East, for to us Chicago is "East," tho the people in New York think it West, and nearly out of the world. Like all else, the blizzards are but temporary, and soon pass away. The weather here has been cold to us, and very disagreeable much of the time since New Year, but now it is again pleasant and much warmer. We feel the cold here much more at freezing-point than you do in Chicago at zero, because we are not fixt for it, nor used to it, and also on account of the humidity in the atmosphere, and so it always seems to be colder than it really is."

* * * *

DR. PEIRO, who, as we have reported, visited the Pacific Coast the past summer, speaks thus of the climate of California:

"So many wish to know my opinion of California as a climate for persons not in robust health that, with the editor's permission, I am tempted to reply to wholesale inquiries through the American Bee Journal.

For persons in advanced years, to the point of feebleness, or those threatened with a development of serious lung trouble, I would say by all means go to California, and don't stop until you reach Los Angeles or its vicinity. The northern portion of the State as a place of residence for the ailing is from bad to worse—generally worse.

I can imagine no climate more delightful than that of Southern California. But you will do best first to go there, say for a year, and see how you personally like it before you "pull up stakes" at the old home for good.

One thing you must also consider—while the climate is excellent it is a poor place for a working-man without capital to depend upon earning a living. You may do so, but it is best to rely upon a well-filled pocket-book.

DR. PEIRO.



To Prevent a Swarm Scattering into other hives, simply sprinkle the bees with a little water whenever you dump them off the branch on which they have clustered; then they will not take wing, but march straight for the hive in front of them.—F. L. Thompson, in *Progressive Bee-Keeper*.

Getting Section Honey and Extracted from a colony at the same time, is characterized by G. M. Doolittle in the *Progressive Bee-Keeper* as a *myth*. So long as there is any room in the extracting-combs, bees will build no comb in sections, even if the extracting-combs are farther than the sections from the brood-nest.

Getting Light Honey from the Wax-Extractor.—Ordinarily the honey that comes from cappings thrown in the wax-extractor is injured and darkened by the great heat required to melt the wax. Rambler finds he can get the honey in good condition by a mild heat long continued. This is secured in a cloudy day, and in a bright sun he makes his own clouds by putting a gunny-sack or something of the kind a few inches above the glass.—*Gleanings*.

A Point for Large Hives is made by Adrian Getaz in *Gleanings*, who insists that it is not enough that colonies are strong to overflowing when the harvest comes, but says he gets best results from those that are strong *before* this time, even if no stronger than others when the harvest begins. He thinks that when a colony merely fills up with bees ready for the opening of the harvest, that the workers are not old enough for best results. Practically, the colonies must be strong the preceding fall.

Bee-Keeping in Cuba seems to be a live topic nowadays. W. W. Somerford talks about it in *Gleanings*. He thinks bell-flower or campanilla honey is finer than basswood, and one who eats it will want more. He tells of 700 gallons pure sugar-cane honey being extracted and unsalable, which the bees gathered the first year of the war from burnt cane-fields. He thinks that competition from Cuban honey need not be greatly feared, as Cuba is not so very large, and not more than half of it will do to keep bees on at all, except as a side-issue.

Practice Better than Theory.—What I have done, and the result, is of far more importance to the world than what I want and why. In other words, if more of our writers would wait about telling us their theories till after they had practiced them for a few years, and then tell us how they worked, and their success, less chaff would appear in our bee-papers, and the fraternity be saved much by not being led to try so many will-o'-the-wisp things, which result in a long "chase" after nothing.—G. M. Doolittle, in the *Progressive Bee-Keeper*.

Some Interesting Apicultural Figures, in the American *Bee-Keeper*, are given by G. M. Doolittle. He began bee-keeping in 1869, paying 10 cents each for 6-pound boxes. Got two boxes filled and ate the honey. The next year he sold at 25 cents a pound, boxes costing \$16.66 for each 1,000 pounds of honey. In 1872 or 1873, 2-pound sections came in, costing \$30 a thousand in the flat, or \$40 ready for use. Sold honey in 1874 for 28½ cents, 27 cents after taking out cost of sections in flat. Then sections fell to \$25, \$18, \$15, \$12, \$10, \$8, and \$7. To-day the finest 1-pound sections are \$3, and if honey had fallen in the same proportion, section honey would to-day bring 6 cents a pound.

Does the 8-Frame Hive Accommodate the Average Queen?—In answer to this question, C. P. Dadant says in *Gleanings*

"Emphatically I will say no. Neither do I think that the bee-keeper who makes any tests at all, no matter who he is or where he is, would answer the question in any other way. My experience is that about $\frac{1}{3}$ of the queens are crowded in a 10-frame brood-chamber, and that not over one-tenth of the colonies can be sufficiently accommodated

with breeding-room in an 8-frame hive; while perhaps only two or three percent of the healthy queens would find this hive too large.

"Perhaps many people will disagree with me, who have never used anything larger than an 8-frame hive, because they judge of the possible strength of a colony by the experience that one may get with such a hive. I beg leave to say that it is next to impossible to judge fairly of this question without first giving a trial to large brood-chambers the year round. It is useless to expect as populous a colony for either spring, summer, or winter, on an average, in a small hive, as in a large one. One might as well expect as large a colt from a pony as from a Norman mare. A greater cluster, a larger space, and a greater amount of stores are bound to produce, with a queen to match, a more satisfactory colony."

Shall Sections be Scrapped?—Editor Holtermann, of the *Canadian Bee Journal*, does not take kindly to the idea that it is better to have sections daubed with propolis so people will think the honey genuine. He says:

"The above reminds me of an incident when out at Farmers' Institute work some years ago. The member of the Government deputation with me was very partial to milk, of which very little, even for tea and coffee, had been upon the table for some time (we were in a newer and colder part of the Province). One day for dinner a jug of milk appeared upon the table. I took half a glass and began sipping it. It tasted so strong of the stable I suggested to my colleague there was no mistake about it; this was genuine cow's milk. He filled his glass promptly and downed half of it before he struck the flavor. It was cow. We do not require to have our honey product in a crude condition to enable an intelligent public to understand it is genuine. It is just as absurd to call for propolized and travel-stained honey as it is to call for hair in butter."

Sweet Clover—*Melilotus*.—This plant closely resembles Alfalfa, but makes a much larger and coarser growth, and is especially adapted to lime soils. It will make a good growth on any lime soil, even on the white barren lime-hills, where the land is so poor that no other plant will live. *Melilotus* is of little or no value on the red clay or sandy soils which contain little lime. In this latitude it is a biennial plant, making only a moderate growth the first year, but an excellent growth the second. This plant comes from seed the first year and from roots the second, and will then continue to re-seed itself for years without interference. The seed may be sown late in August or in February, at the rate of $\frac{1}{2}$ bushel per acre, as directed for *Lespedeza*.

Melilotus, in either the cured or green state, is not generally liked by animals unaccustomed to it at first, but they soon learn to relish it, and it is very nutritious either in the green or cured state. *Melilotus* starts into growth early in the spring when other green forage is scarce, and stock learn to like it quickly. This plant not only furnishes a large amount of grazing, but has few equals as a soil-improver.—Mississippi Experiment Station Bulletin.

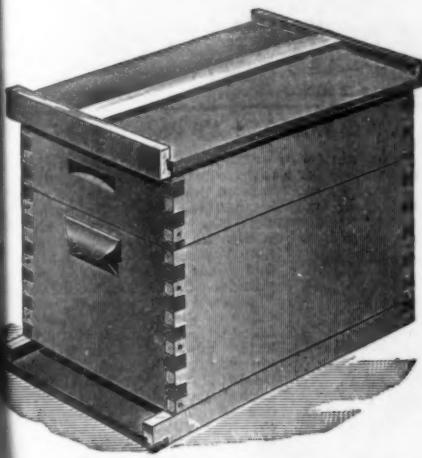
Tar Odor a Cure for Foul Brood.—Loyalstone says in *Australian Bee-Bulletin*:

"I got some foundation, wrapt a piece of cheese-cloth over it, then I got a box of thin wood, placed two pieces of tarred felt in the bottom of it, put the foundation in cloth on top of this. Then put two more pieces of tarred felt on top. Put this in a warm place for three weeks, when the foundation had inhaled the tar it smelt very strong. I then hived two swarms bad with foul brood in a fresh hive with starters made of this foundation, and hived two other swarms bad with foul brood in a fresh hive with starters of ordinary foundation, with this result: The two swarms hived on tar-smelling foundation showed no sign of foul brood. The other two hived on ordinary foundation were again attackt with foul brood. So again I experimented. The worst of these two I hived in a fresh hive with starters of tar-smelling foundation. The other I hived in a fresh hive with ordinary foundation. Again the hive with anti-foul-brood foundation showed no signs of foul brood, whereas the other one was infected. The last I transferred into a fresh hive with anti-foul-brood foundation, and it showed no signs of foul brood. I then got a lot of thin cakes of wax and put in a box in a warm place surrounded with tarred felt, and in six weeks the smell of the tar was so strong in the wax that you could not boil it out. The more the wax was boiled the stronger was the smell. Make this wax into foundation and foul brood will not trouble you. It has not in the many cases I have tried."

Root's Column

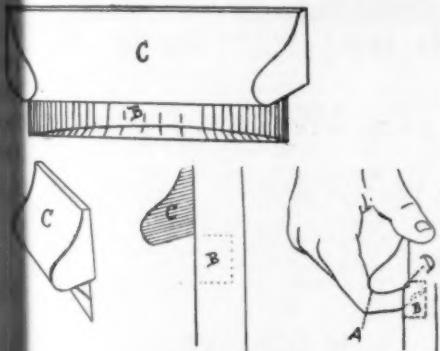
HAND-HOLE CLEATS FOR HIVES.

We have finally got them perfected—or at least so they suit us, and now offer them in all our Dovetailed hive combinations. They are nothing more nor less than short pieces of moulding beveled at each end, and nailed so as to



to come directly over the top edges of the hand-holes, as shown above. The following illustrations show a little more of the detail.

Perhaps the question may be asked WHY the hand-hole cleat alone would not be sufficient. It is much more convenient than the hand-hole alone; and the two in combination are far better than either alone. When one tries to lift a 50-pound hive by hand-holes, his fingers can get a



grip only at the mere tips, on a sharp edge, as at D. Such a hold is a severe strain on, if not painful to, the ends of the fingers; and one does not feel that he cares to lift very many hives in this way; but if he can get the heft of the weight on the middle joints of the fingers, as at A, and on a rounding edge, he can lift all that his back will stand.

We sell these cleats separately when called for, at 75 cents per 100, or \$6.00 per 1,000. They can be attached to hives already in use; and where they are to be moved to out-yards, or handled very much, these cleats are a great convenience, and worth many times their cost.

Dr. Miller wants his cleats to go clear across the hive. If there are those who prefer to have them so, we can supply their hives with such, but the price (of the cleats) will be twice as much as for the short ones, and will be supplied only from the factory, as our dealers will keep only regular goods.

The A. I. Root Company
MEDINA, OHIO.

GENERAL ITEMS

Bee-Keeping in Arizona.

Last season I ran my apiary for extracted honey, and colonies averaged about 80 lbs. My neighbor, Mr. Glasscock, had 140 colonies, and they averaged 40 pounds of comb honey, which is rather a poor crop here. The alfalfa was a failure, but the old reliable mesquite never fails here, and we are always sure of a fair crop; it yields a milky white honey, much like the alfalfa.

The prospects are good for next season, as there has been plenty of snow and rain in the mountains, and bees are in fine condition at the present writing.

All the practical bee-keepers here use the Langstroth hive, while a great many use box and old hollow log, and call the queen-bee a "king."

The first honey-bees were kept here about 16 years ago, which were shipped from California. There were 10 colonies brought on an ox-wagon. Now the timber and rocks in the mountains are full of bees. There is a fly here that ruins the alfalfa honey one year out of three. It seems to suck the bloom to death.

W. D. JEFFERSON.
Graham Co., Ariz., Jan. 8.

The Bee Journal Helped Him.

I commenced with one colony in the spring of 1895. I now have 22 colonies packed on the summer stands. I think they are in good condition. I owe my success so far to a careful reading of the American Bee Journal. D. W. WILL.

Somerset Co., Pa., Jan. 16.

Report for 1898.

In the spring of 1898 I sold five colonies, and had 54 left, which increased to 91, by natural swarming, and 1500 pounds of comb honey. I peddled it out at 10 cents a pound except a little in spring that was not so good, which I sold at 8½ cents.

A. R. YANDELL.
Indian Territory, Jan. 17.

Bees Have Frequent Flights.

My bees have flown out more or less nearly every day this month. They are doing all right so far as I know. I have 18 colonies in the cellar that can't enjoy this nice weather to fly out. NOAH MILLER.

Iowa Co., Iowa, Jan. 24.

Something About Bee-Stings.

Seeing several articles in regard to bee-stings, I may have a word also. From the action of the poison it seems to be of the same nature as a snake-bite, and no doubt if the same or equal amount of the poison were forced into the circulation its effect would prove equally fatal. I used to be very susceptible to the effects of bee-stings, but after a continued interview of the business end of bees for about 30 years it does not affect me so seriously. But there are several things to do in case a sting is received, and several not to do, i.e., don't attempt to pull out the sting the first thing, but leave it right where the bee put it. The reason for this is, a bee's sting is barbed like a fish-hook, and the sac containing the poison is always left with the sting; any attempt to pull it out only forces more poison into the wound. Don't stand near the hive any longer than necessary after being stung, but move back gently a few feet, as the smell may anger more of the bees. Don't make any quick demonstrations, but move gently and quietly out of the immediate vicinity. Before you go among the bees provide yourself with a little salt where you can get it handy, and a small

Tomato Vaughan's Earliest of All

Earliest Good Tomato. Absolutely first of 200 kinds. Medium in size, slightly wrinkled, but of first quality and first in the market. Large package 10 cts., only, with our complete 1898 catalogue, "A MIRROR OF AMERICAN HORTICULTURE." It tells the whole story of the garden, lawn and farm. We also make following bargain offers to prove that Vaughan's flower seeds and bulbs are the best in the market.

SIX MOST POPULAR FLOWERS.
1 pk Sweet Peas, 25 kinds 1 pk Mignonette, Giant
1 pk Giant Pansy, 12 kinds 1 pk Morning Glory, Giant
1 pk Nasturtium, Mad. Gunther 1 pk Cosmos, New York
The above six kinds for only four 2c stamps (sc.)

7 Bulbs for 14c.

1 Begonia	1 Easter Lily	1 Cyclamen
1 Black Calla	1 Gladiolus	1 Gloxinia
1 Tulrose	Catalog Free with every order.	

Vaughan's Seed Store,
New York, 14 Barclay St. CHICAGO, 84-86 Randolph St.
Please mention Bee Journal when writing.

SWEET CLOVER

And Several Other Clover Seeds.

We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

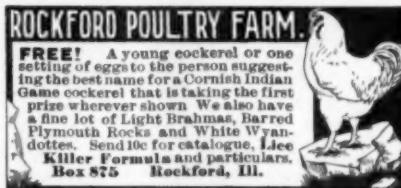
	5lb	10lb	25lb	50lb
Sweet Clover (melilot)	.60c	\$1.00	\$2.25	\$4.00
Alisike Clover	.70c	1.25	3.00	5.75
White Clover	.80c	1.40	3.00	5.00
Alfalfa Clover	.60c	1.00	2.25	4.00
Crimson Clover	.55c	.90	2.00	3.50

Prices subject to market changes.

Add 25 cents to your order, for cartage, if wanted by freight.

Your orders are solicited.

GEORGE W. YORK & CO.
118 Michigan Street, - CHICAGO, ILL.



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The Greatest Seed Offer

One packet each Great Pre-Historic Corn, New July 4th Oats, Great Kuttawa Dwarf Tree Tomato, 100 wght. Cabbage, Imp. Banana Musk Melon, Thanksgiving Pumpkin and five packets beautiful flowers all free together with "Up-to-Date Farming and Gardening" 1 year (50 cts.) and the greatest of all poultry papers "The Poultry Keeper" 1 year (50 cts.) all these for only 75 cents. Send at once for the February "Poultry Keeper" and read about it. Address, Poultry Keeper Co., box 10, Parkersburg, Pa.

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44A26 Please mention the Bee Journal.

The "Emerson" Binder.

The Emerson stiff-cloth-board Binder for the American Bee Journal we mail for 60 cents; or will send it with the Journal for one year—both for \$1.50. It is a very fine thing to preserve the copies of the Bee Journal as fast as they are received. If you have the "Emerson" no further binding is necessary.

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We sell you direct from our Factory At Wholesale Prices.

Surries, Phaetons, Buggies, Spring Wagons, and Road Wagons. Our vehicles excel in quality of stock, material, workmanship, finish and style. We make every vehicle we advertise. In Single and Double Harness everything you could wish. An excellent single Harness now as \$4.80. Illustrated catalogue sent free. All prices marked in plain figures. Write at once. Address,

EDWARD W. WALKER CARRAGE CO.,
50 Eighth St., GOSHEN, INDIANA.

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Buy no incubator and pay for it before giving it a trial. Many people have lost faith in incubators because they bought one that was never intended to hatch chickens—made merely to sell.

The Von Culin Incubators are sold on trial subject to your approval. Simplest machine made. A child can operate it. The biggest catalogues and "poultry pointers" book published, sent for 5c. Plans for Brooders, Poultry Houses, etc., sent on receipt of 25c. Von Culin Incubator Co., 5 Adams St. Delaware City, Del.

BARNES' FOOT POWER MACHINERY

Read what J. L. PARENT, of Charlton, N. Y., says: "We cut with one of your Combined Machines, last winter, 50 chaff hives with 7-in. cap, 100 honey racks, 500 broodframes, 2,000 honey boxes, and a great deal of other work. This winter we have double the amount of bee-hives, etc., to make, and we expect to do it with this Saw. It will do all Catalog and price-list free." Address, W. F. & JOHN BARNES, 525 Ruby St., Rockford, Ill.

Please mention Bee Journal when writing.

JUST AS NATURAL as the old hen and a good deal more reliable. Doesn't break its eggs or make them lousy. Does away off the nest and allows the eggs to chill but hatches every egg that can be hatched. THE PETALUMA INCUBATOR is absolutely perfect as to incubator essentials—proper application and distribution of heat and moisture, regulation and ventilation. For 50 to 350 eggs. WE PAY FREIGHT ANYWHERE in the U. S. Handsome catalog free. Petaluma Incubator Co., Box 91 Petaluma, Cal.

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The American Poultry Journal

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A Journal that is over a quarter of a century old and is still growing must possess intrinsic merit of its own, and its field must be a valuable one. Such is the American Poultry Journal.

50 cents a Year. Mention the Bee Journal.

The Rural Californian

Tells all about Bees in California. The yields and Price of Honey; the Pasturage and Nectar-Producing Plants; the Bee-Ranches and how they are conducted. In fact the entire field is fully covered by an expert bee-man. Besides this the paper also tells you all about California Agriculture and Horticulture. \$1.00 per year; 6 months, 50 cents. Sample copies, 10 cents.

THE RURAL CALIFORNIAN,
218 North Main Street, - LOS ANGELES, CAL.
Please mention Bee Journal when writing.

(ounce) vial of the best whisky; immediately swallow about one teaspoonful and lay a little salt on the sting and wet it with the whisky. You will, if not a drinking person (and no bee-keeper should be) feel the poison going into the circulation from the wound and the whisky from the stomach. This is the only remedy I have ever found, if I except the exudations from the ear, i.e., ear-wax, which will stop the pain of a sting instantly, but it is not always attainable.

After the salt and whisky are applied, let the sting dry up, and then remove it with a knife. But you can go right back amongst the bees without fear of their smelling or being angered, as the whisky and salt kills the smell as soon as applied.

Garland Co., Ark. J. H. HERMANCE.

[We fear that if some bee-keepers should take a swallow of whisky every time they are stung they wouldn't be able to do much with bees or anything else. We would much prefer to endure the pain of the sting than to swallow the whisky. We are too old to begin to take whisky, and wish the vile stuff had never been invented. The world would be better off without it.—EDITOR.]

Almost Discouraged.

I have become almost discouraged in the bee-business, with three years of failure. Formerly this was considered one of the best locations in central New York. Last spring my 105 colonies came through without any loss, and in good condition. I was looking for early swarms, and the spring was cold and wet my bees increase and filled the hives with bees, but refused to swarm, and they continued throughout the season. I had no increase, and but about 500 pounds of poor honey in the supers, with my bees in fair shape for the winter, that is, with plenty of honey and bees.

One of my neighbors sprayed his fruit-trees last spring, and I claim that it killed the bees for he did it while the trees were in full bloom.

H. Root.
Cortland Co., N. Y.

Wintering and a Report.

I am trying wintering bees again in my frame building. The four colonies came out all right last spring, and I increased to 11 and got 300 pounds of extracted and comb honey. I think they have plenty to winter on also, and a few frames for spring, if needed.

Last winter I set the hives in a row, and covered them all around below as above with a foot or more of oats chaff, leaving a spout of two or three inches through the chaff to the open space inside, to give them air. I likewise gave them two one-inch holes through the honey-boards on top, covering them with wire-cloth and sacking to keep out the dust.

This year I have built them three deep, and covered them in chaff in the same way, and now wait results.

If all is favorable in the spring I would like to double my number of colonies, and do it by dividing. They were put in the first week of November, and we do not look for them getting flight before the first or middle of April, or later. I think the dividing plan suits my time and idea better than watching for swarms.

R. McCRADIE.
Norman Co., Minn., Feb. 6.

Some Good Southern Honey.

Having seen so many expressions in the American Bee Journal as to the poor quality of Southern honey, I send a sample, under separate cover, of gallberry honey, to get your opinion.

About 18 months ago I sent a sample of the poorest honey I produced that year (1897) and I was surprised when you said it was "better than the usual samples of

MONEY IN MELONS

BUCKBEE'S NEW ~ STRAWBERRY MELON.

This grand melon was originated by planting the most delicious variety of strawberries between every other row of a Perfected Hybrid Melon.

Write to-day FREE! Mention this paper and will send you a sample package of this wonderful Melon together with my Beautiful and Instructive Seed and Plant Book; tells all about the best varieties of Melons—how to grow them for profit, and every thing of interest in seeds, plants, etc.

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It is a matter of great convenience and a saving of labor for a farmer to have a low, handy wagon. They save more than half the labor of loading in hauling manure, hay, grain, corn-fodder, wood, stones, etc. The man who already has a wagon may have one of these low handy wagons at the small additional cost for a set of wheels. These Electric Steel Wheels, with either direct or stagger spokes, with broad-faced tire, are made to fit any axle. You can convert your old wagon to a low, handy wagon in a few moments. You thus virtually have two wagons at one price. Write to the Electric Wheel Co., Box 16, Quincy, Illinois, for their catalogue, which fully explains about these and their Electric Handy Wagons, Electric Feed Cookers, etc.

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Mention this paper.

100, 6 to 8 in. \$1; 12 to 18 in. \$2.50.
100, 3 ft. \$10 prepaid. 100, 4 to 6 ft.
50 varieties, \$15. 4 choices Fruit trees, 50 varieties, \$10. Ornamental & Fruit Trees. Catalogue and prices of 50 great bargains lots SENT FREE.
D. HILL, Evergreen Specialist, Dundee, Ill.

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The Midland Farmer

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The representative modern Farm Paper of the Central and Southern Mississippi Valley. Page departments to every branch of Farming and Stock-Raising. Plain and Practical—Seasonable and Sensible. Send 25 cents, silver or two-cent stamps, and a list of your neighbors (for free samples), and we will enter your name for 1 year. (If you have not received your money's worth at end of year, we will, upon request, continue the paper to you free of cost another year).

W. M. BARNUM, Publisher,
Wainwright Building, ST. LOUIS, MO.
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with our new patent
KEROSENE SPRAYERS

is simple indeed. Kerosene Emulsion made while pumping. 12 varieties Sprayers, Bordeaux and Vermorel Nozzles, the "World's Best," THE DEMING CO. SALEM, OHIO. Western Agents, Hennion & Hubbell, Chicago. Catalogue and Formulae Free.

Glass Honey-Jars

For 3-4 Pound at \$3.50 per Gross.

We have on hand a limited supply of tall, straight, white-glass Honey-Jars holding $\frac{1}{2}$ -pound each. They have a tin cap that screws on the glass. They are very attractive for the retail grocery trade. Put up in barrels holding exactly one gross each, f.o.b. Chicago, \$3.50 per gross; 5 gross, \$3.25 per gross. Address, GEORGE W. YORK & CO., 118 Michigan Street, CHICAGO, ILL.



It possesses so many points of superiority that every farmer should demand its use when he has his grain threshed. Combines all the points of the apron and vibrator principles. It threshes fast enough to suit the thresherman. It threshes clean enough to suit the farmer. Catalogue of Rumely Threshing Machinery, Engines, Horse Powers, Saw Mills, etc., FREE.

M. RUMELY CO., La Porte, Ind.

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40 PAGE CATALOG BEE-KEEPERS' SUPPLIES,
Instructions to Beginners, &c., free.
JOHN NEBEL & SON,
5Atf HIGH HILL, MISSOURI.
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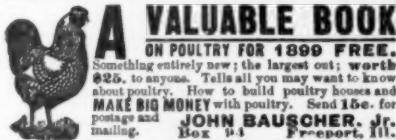
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Queens, Sections, Comb Foundation, Bee-Veils, Smokers, Honey-Knives, etc. **SEND FOR ONE.**

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BEE-KEEPERS! Let me send you my 64-page CATALOG for 1899.
J. M. Jenkins, Wetumpka, Ala.

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Wholesale and Retail.

Working Wax
INTO FOUNDATION FOR CASH A SPECIALTY.

Hives, Sections, and a full line of SUPPLIES.

I sell the VERY BEST at lowest prices and ship promptly.

Send me your name for 1899 catalog and prices, whether you are a large or small consumer or dealer.

Beeswax always wanted for cash or trade at the highest price. Address,

GUS DITTMER, Augusta, Wis.
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A MINIE-BALL
won't "sweep an avenue," but its screech will call attention. These little ads. may remind you we have larger ammunition for the asking. Write us.
PAGE WOVEN WIRE FENCE CO., ADRIAN, MICH.
Please mention Bee Journal when writing.

Southern honey received;" so please let me know what you think of this.

The past season was quite satisfactory here. I had 500 pounds of as nicely put up white comb honey as I ever saw (and I have lived in Iowa, where we had white clover); also 200 pounds of extracted, from 20 colonies, spring count, and increase to 22. I have sold it all at good prices, and could have disposed of as much more had I had it.

I expect to double the number of colonies this winter (by purchase), and hope to do even better this year.

ERNEST W. HALSTEAD.
Jackson Co., Miss., Jan. 17.

[The sample of honey arrived in good order, and is most excellent in flavor and body. It would suit us almost as well as the best alfalfa. No wonder it sold at good prices, and people were looking for more.—EDITOR.]

Bees are Quiet.

Bees are very quiet. I have 27 colonies. I did not get much from them last season.

G. H. LAWRENCE.
Juneau Co., Wis., Feb. 5.

Results of the Season of 1898.

Bees did not do a very big business here last season. I had 16 colonies in the spring, increase to 24, and got 700 pounds of comb honey. They are in good shape now, and wintering well. I will try the Golden method next summer. H. D. STEPHAN.
Wabasha Co., Minn., Feb. 7.

Fire in a House-Apiary.

I had an experience in rendering wax which for speed beats anything I have ever seen, but I cannot say that I care to use it. I keep my bees in a house-apriary; the bees are on the south side, with supers, extra hives, tools, etc., on the north side. My extracting-frames and combs of honey I keep in a cupboard. Last night, from some unknown cause, the place caught fire. I live in the village, and the fire department was soon on hand, and gave the best of service. Everything on the north side was destroyed, but my bees are all safe and sound. Some of the hives are scorched, but a little paint will remedy that.

J. M. DONALDSON.
Worcester Co., Mass., Jan. 27.

Poor Year for Bees.

We started in last year with 25 colonies, and saved 16 swarms, 5 of which died, leaving us with 35 colonies.

Last year was a poor one for bees in this locality. We got only 300 sections of good comb honey. I have been taking the American Bee Journal for nearly a year now, and have found it very instructive and useful.

W. Z. FONTAINE.
Davidson Co., Tenn.

A Maryland Bee-Keeper's Report.

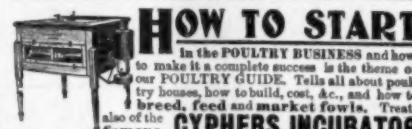
We are now having very nice weather. Yesterday the thermometer indicating 70 degrees, and the bees were taking a good flight and doing a little house-cleaning, getting ready for spring. My bees are on the summer stands with lots of honey. I have them protected on the West with boards and fodder, and face them to the East. But we had some very cold weather about the holidays, but only for a few days at a time. New year's night, or the morning of Jan. 2, the temperature was down to 14 degrees below zero. It is feared by the peach-growers in the mountain belt that it has frozen the peaches, but lucky for the bees, they pulled through.

The honey crop was short last year—too wet and cool in the spring. I could not complain much, as I had an average of about 30 pounds per colony. I had a field

Improved Farm For Sale

Near the best market and best shipping point in West Michigan. Now TACKLE THE SUGAR BEET.

A & O. BAXTER, Muskegon, Mich.
8A5t Please mention the Bee Journal.



In the POULTRY BUSINESS and how to make it a complete success is the theme of this Poultry Guide. Tells all about poultry houses, how to build, cost, etc., and how to breed, feed and market fowls. Treats also of the famous CYPHERS INCUBATOR

which is delivered freight paid to every purchaser. This machine requires absolutely no artificial moisture. Send 10 cents and get the book. Circulars FREE.
'THE CYPHERS INCUBATOR CO., Box 56, WAYLAND, N.Y.

Please mention Bee Journal when writing.

California! If you care to know of its Fruits, Flowers, Climate or Resources, send for a sample copy of California's Favorite Paper—

The Pacific Rural Press, The leading Horticultural and Agricultural paper of the Pacific Coast. Published weekly, handsomely illustrated, \$2.00 per annum. Sample copy free.

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PATENT WIRED COMB FOUNDATION

Has no Sag in Brood-Frames.

Thin Flat-Bottom Foundation
Has no Fishbone in the Surplus Honey.

Being the cleanest is usually work the quickest of any foundation made.

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Our large Illustrated catalog of Bees, Hives, Smokers, &c
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We make the New Champion Chaff-Hive with fence and plain sections, and a full line of other SUPPLIES.

A postal sent us with your name for a Catalog will meet with the greatest surprise. **R. H. SCHMIDT & CO., SHEBOYGAN, WIS.**

Bees Wanted FINE LAND

At \$5.00 per acre to trade for bees.

HARRY McCARTER,
Dodge City, Kans.

ALBINO QUEENS If you want the most prolific Queens—if you want the gentlest Bees—if you want the best honey-gatherers you ever saw—try my Albino. Untested Queens in April, \$1.00; Tested, \$1.50. 9A26t **J. D. GIVENS, LISBON, TEX.**

Those Wonderful Dogs.

We received the Scotch Collie Male Pup all right and am very much pleased with him. We think you made a good selection.—Horton Longyear, Lansing, Mich., Feb. 9, 1899.

Our Scotch Collie male pup arrived in splendid condition. He suits Mrs. B. splendidly, and we think he will make a fine dog.—Rev. D. M. Buchanan, Mauch Chunk, Pa., Feb. 7, 1899.

The Scotch Collie male pup which we received a week ago is doing first-rate and seems very intelligent. We are well pleased.—W. J. Snyder, Mowen, Ill., Feb. 3, 1899.

The pair of Scotch Collie male pups received last week are very nice.—A. F. Carlson, Renovo, Pa., Feb. 9, 1899.

I received the three Scotch Collie pups last week all right. I am well satisfied with them. They are the pets of the whole family.—Henry McConnell, Arnot, Pa., Feb. 2.

The Scotch Collie pup arrived all right. He is as fine a little fellow as I ever saw. Think he will be grand as he grows older. In fact I am more than pleased with him.—Mrs. J. H. Ellingwood, E. Lexington, Mass., Feb. 2, 1899.

For particulars and prices, address POTTS BROS., box P, Parkersburg, Pa.



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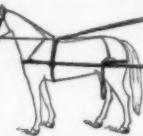
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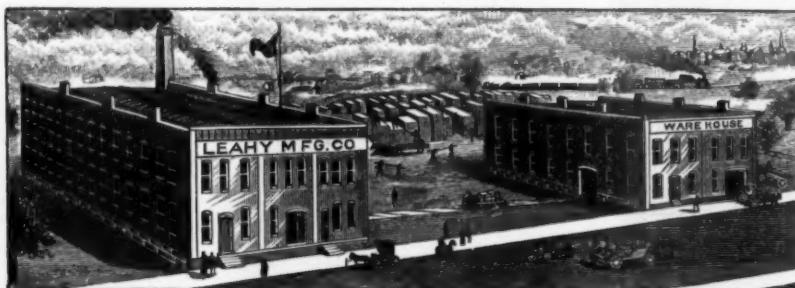
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of 20 acres of sapling or peavine clover for my bees to gather from, and they made good use of it, too. I got a little over 1,000 pounds of nice honey, but the sections were not filled very heavy. I shipped 600 pounds (nearly 700 sections) to Washington, D. C., and it netted me little over 12 cents per section; and the other 400 pounds we will eat. We have seven in the family and all big honey-eaters.

I purchased a few colonies Jan. 21, for from 25 to 50 cents each. Some were in old nail kegs almost falling to pieces, and some in the old Stoddard hive, patented in 1848. I purchased them along the mountain near McClean's Lookout, during the battle of South Mountain and Antietam.

L. A. HAMMOND,

Washington Co., Md., Jan. 28.

Bees Did Well Last Year.

I have some 20 colonies run for extracting. We did well last year, getting more honey than we ever got before. I can sell all we get. I have been a bee-keeper all my life, but only knew bees sting and gather honey until three years ago, since when I have read the American Bee Journal and other bee-literature. I am 60 years old, and am an invalid, yet able to attend to a limited number of colonies of bees.

W. A. THOMPSON, SR.

Franklin Co., Va.

Wintering on the Summer Stands.

My bees are wintering well on the summer stands. I have some in chaff hives. All are doing well so far. They have had three good flights, but I never saw so many dead bees in wintering as this year.

HENRY LOHAUS.

Platte Co., Nebr., Jan. 28.

Improvements in Wax-Extractors.

I have been giving the solar wax-extractor some study, and anything that appears in the bee-papers upon that subject immediately commands my attention.

Mr. W. L. Porter's paper and the discussion that followed at the recent meeting of the Colorado State Bee-Keepers' Association, was of interest, and among other things I note what is said about the material that is put into the extractor, sliding on the pan and damming in a mass at the lower end. Persons who have access to Gleanings in Bee-Culture for Jan. 15, will note an illustration and the efforts I have been making to overcome some of the objections in the ordinary solar wax-extractor.

Instead of making the delivery at the end I make it at the side. The pan is made of tin, and can be adjusted in various positions from nearly horizontal to quite an incline. Upon the delivery edge I have a dam or strainer of coarse-mesh wire-cloth; there is no damming of refuse in this extractor, and the wax is rendered quite rapidly. I think a can four feet in length and 20 inches in width is sufficiently large to render all the cappings and scraps from a large apiary.

My primary idea for a side delivery was to allow the quick exit of the honey usually mix with the cappings, and to save the honey from becoming darkened by heat; this is greatly promoted by shading the extractor while the honey is being rendered, and then giving the residue the full rays of the sun.

This extractor was made in the backwoods of Siskiyou Co., Calif. I have plans now for another for this southern country, which will be a little more finished in appearance, and with a wax-caking attachment.

I hope the Colorado friends will have their extractor illustrated, for it is only by comparing notes that we can improve and approach perfection.

J. H. MARTIN.

Los Angeles Co., Calif.

[We should be pleased to give an illustration of both Mr. Martin's and the Colorado extractor, if they will please send us either drawings or photographs of them.—ED.]

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The inhalation of this Oxygen Treatment is really wonderful, and is the nearest possible specific for the cure of Consumption, Spitting of Blood, Asthma, Bronchitis, Hay Fever, Grippe and all diseases of the throat and lungs. Don't give up hope before faithfully using this remarkable Oxygen treatment!

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Wax into Foundation for Cash or Trade a Specialty. I defy competition in Foundation. Millions of Sections—Polish on both Sides.

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Smoke Engine (largest smoker made)	4-in. stove. Doz. \$13.00; each, by mail, \$1.50
Doctor.....	3½-in. stove. Doz. 9.00; " 1.10
Conqueror.....	3-in. stove. Doz. 6.50; " 1.00
Large.....	2½-in. stove. Doz. 5.00; " .90
Plain.....	2-in. stove. Doz. 4.75; " .70
Little Wonder (weight 10 ounces) ...	2-in. stove. Doz. 4.50; " .60
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Bingham Smokers have all the new improvements. Before buying a Smoker or Knife, look up its record and pedigree.

FIFTEEN YEARS FOR A DOLLAR; ONE-HALF CENT FOR A MONTH.

Dear Sir:—Have used the Conqueror 15 years. I was always pleased with its workings, but thinking I would need a new one this summer, I write for a circular. I do not think the 4-inch Smoke Engine too large.

January 27, 1897.

Truly, W. H. EAGERTY, Cuba, Kansas.

T. F. BINGHAM, Farwell, Michigan.



FOREWARNED IS FOREARMED

Do Not Wait until the last moment to order your Supplies. You may be disappointed by delay in shipment and lose a portion of the honey harvest. **Save money and gain honey** by sending us your estimate NOW. We are offering Special Inducements for Early Orders. Our 1899 Catalog free.

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HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Feb. 16.—This month trade has been of small volume in comb honey, due perhaps to the extreme cold that has made transportation dangerous, we now look for a better movement; yet the season is drawing to a close, as after the middle of March there is practically none sold until the new harvest is ready.

Fancy grade of white comb, 13c; travel stained and light amber, 11@12c; amber and dark, 8@10c; candied and mixt colors, 6@7c. Extracted, white, 6@7c; amber, 5@6c. Beeswax, 27@28c.

R. A. BURNETT & CO.

Detroit, Jan. 2.—No change in supply of honey as to quality, but prices are somewhat lower than last quotations, viz: Fancy white, 13c; No. 1, 12@12½c; fancy dark and amber, 9@11c. Extracted, white, 6@7c; dark, 5@5½c. Beeswax, 25@26c.

M. H. HUNT.

INDIANAPOLIS, Jan. 4.—Fancy white comb, 12@12½c; No. 1, 10@11c. Demand fairly good. Dark comb honey is being offered at 8@9c with almost no demand. Clover and basswood extracted, 6@7c. Beeswax, 26@28c.

WALTER S. PODUER.

NEW YORK, Jan. 20.—Fancy white, 12c; No. 1 white, 10@11c; amber, 9c; buckwheat and dark, 7c. Extracted in good demand at unchanged prices. Beeswax rather quiet 27@28c.

Trade in comb honey is quiet. White is pretty well cleaned up, but there is a large stock of buckwheat, amber and mixt, having accumulated late, and in order to sell in quantity lots it is necessary to shade quotations.

HILDRETH BROS. & SEGELEN.

SAN FRANCISCO, Feb. 8.—White comb, 9½@10½c; amber, 7½@8½c. Extracted, white, 7@7½c; light amber, 6½@7½c. Beeswax, 24@27c.

Market is not favorable to buyers, more especially for desirable extracted stocks of which are decidedly light. Comb is in moderate supply, and has to depend almost wholly on local custom for an outlet. Quotable rates remain as previously given.

BOSTON, Feb. 8.—The demand for comb honey is very light, with full stock on hand. We quote our market: Fancy white, 13@14c; A No. 1, 12c; No. 1, 11@12c; light amber, 9@10c. No demand for buckwheat. Extracted, white Northern stock, 7@8c. Beeswax quiet at 27@28c.

BLAKE, SCOTT & LEE.

KANSAS CITY, Jan. 25.—Fancy white comb, 13c; No. 1, 12c; amber, 11c; dark, 10c. Extracted white, 6c; amber, 5c; dark, 4½c. Beeswax, 25c. C. C. CLEMONS & CO.

BUFFALO, Feb. 24.—Closely cleaned up on fancy one-pound combs; such kinds move brisk to-day at about 12 cents. Other grades have cleaned up mostly, but few remaining which are selling at 9c down to 7c. Extracted honey not much used here; stray lots 5@6c. Fancy pure beeswax, 30@33c; common, 22@28c.

BATTERSON & CO.

CLEVELAND, Jan. 2.—Fancy white, 13@14c; No. 1 white, 12@13c; A No. 1 amber, 10@11c; No. 2 amber, 9@10c; buckwheat, 8c. Extracted, white, 7c; amber, 6c; buckwheat, 5c.

A. B. WILLIAMS & CO.

MILWAUKEE, Jan. 9.—Fancy white, 1-lb. sections, 12½@14c; A No. 1, 12@12½c; No. 1, 11@12c; dark or amber, 8@11c. Extracted, in barrels, kegs and pails, 6½@7½c; dark, 5@5½c. Beeswax, 25@27c.

The condition of the market is favorable for shipments of honey, especially of best grades, which are in small supply. The sales are moderate, but we are expecting an increased demand and good trade this spring.

A. V. BISHOP & CO.

SECOND-HAND Sixty-Pound Cans For Sale Cheap.

We have another lot of about 300 second-hand 60-pound Cans, two in a case, that we offer, while they last, in lots of five or more cases (10 cans) at 40 cents a case, f.o.b. Chicago. They are in good condition. Better order at once if you want some of them. Address,

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There are indications that the demand for SUPPLIES will be very large this season, and everyone should order as early as possible. We have large facilities for manufacturing all kinds of

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And will serve our customers as quickly as possible.

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Because it has always given better satisfaction than any other. Because IN 22 YEARS there have not been any complaints, but thousands of compliments.

We guarantee satisfaction.

What more can anybody do? **Beauty, Purity, Firmness, No Sagging, No Loss.**
PATENT WEED PROCESS SHEETING.

Send name for our Catalog, Samples of Foundation and Veil Material. We sell the best Veils, cotton or silk.

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